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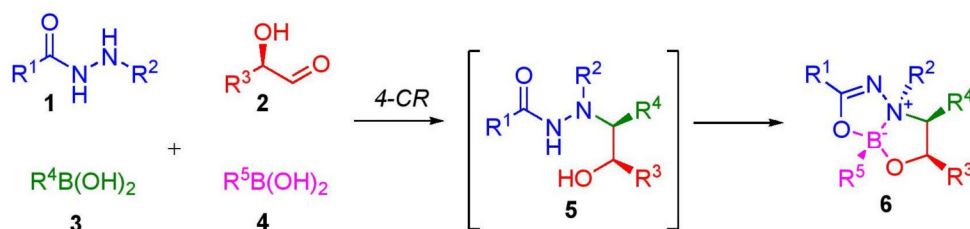
NOVEL 4-COMPONENT REACTION FOR THE SYNTHESIS OF BORON HETEROCYCLIC SCAFFOLDS

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Multi-component reactions allow for the generation of complex molecular scaffolds in a single synthetic operation from simple building blocks.¹ In this context, the Petasis 3-component reaction is particularly useful for the synthesis of *anti*-amino alcohols from amines, α -hydroxy aldehydes and boronic acids. We now wish to report a variant of this powerful reaction, where hydrazides **1**,² α -hydroxy aldehydes **2** and *two* boronic acids, typically an electron-rich boronic acid **3** and an electron-poor boronic acid **4**, are combined to give novel boron heterocyclic compounds **6** (see figure). This 4-component reaction is highly modular and proceeds with excellent diastereoselectivity, providing the desired products **6** in high yields. In recent years there has been profound interest in boron heterocycles, e.g. as protecting groups³ and organocatalysts,⁴ and we foresee many exciting applications of these scaffolds in the future.



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